

The Ins and Outs of Drawer Stops

Four clever ways
to keep a drawer
in its place

BY PETER TURNER

A well-fitted, smooth-gliding inset drawer is a testament to fine furniture making. This type of drawer, often made with half-blind dovetails at the front and through-dovetails at the back, fits into a pocket built into a case or a table. In a case piece, the drawer usually is supported on a frame; in a table, it slides on a rail and runners, steered in and out of the pocket by guides.

But the unseen grunts of the drawer pocket are the stops, which

serve as the brakes to keep a drawer from being pushed in too far (in-stops) or unexpectedly pulled out too far (out-stops). Stops also help keep the drawer reveal consistent, whether you want a flush drawer front or one that's recessed a bit.

I've screwed in-stops behind the front rail, and I've mortised them into the rail (see pp. 58-59). For out-stops, I favor a couple of clever mechanisms (see pp. 60-61).

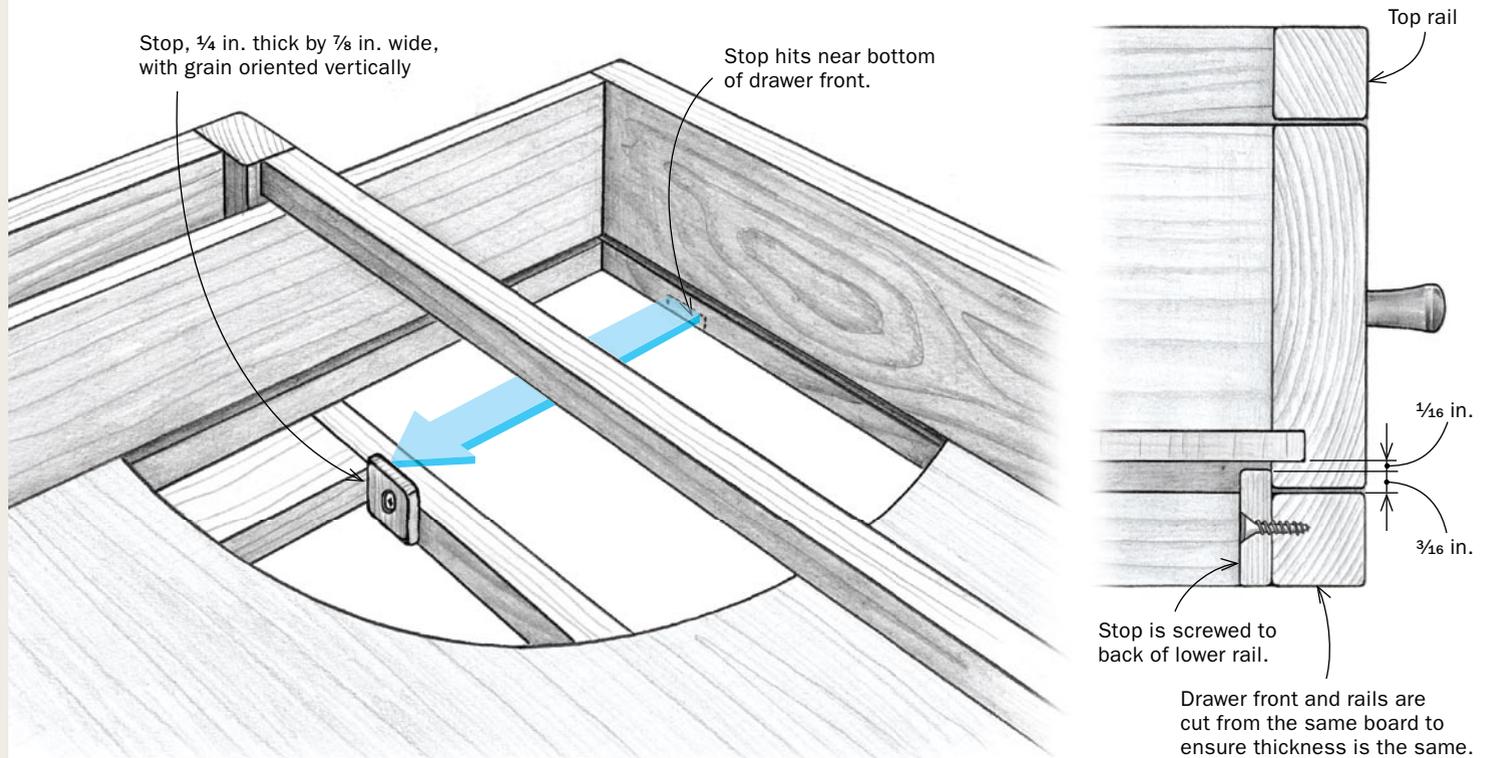
There are simpler methods to stop a drawer. But I stick to these few because they are positive and durable, making them worthy of fine furniture.

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In-stops

Thin rail? Put the stop behind it



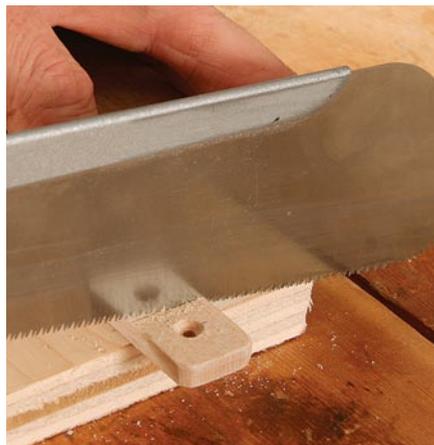
In my furniture, grain typically plays an important role—whether I'm looking to play up contrast or work toward seamless transitions between parts. When building tables with drawers, I often cut the drawer face and its rails, above and below, from the same plank and then install them in the same order they were oriented in the plank.

This method has two advantages. First, it unifies the front of the piece, with a continuous grain match from the top rail to

the bottom. Second, because I rip the parts after they've been jointed and planed, they are identical in thickness. This allows me to install two stops on the back of the bottom rail, making it easy to create flush drawers. The back of the drawer face, below the drawer bottom, rests against the face of the applied stop. If I want inset drawer fronts, I just dial in the setback by creating a small step in the stop. You'll need a full $\frac{1}{4}$ in. below the drawer bottom to accommodate the stop.

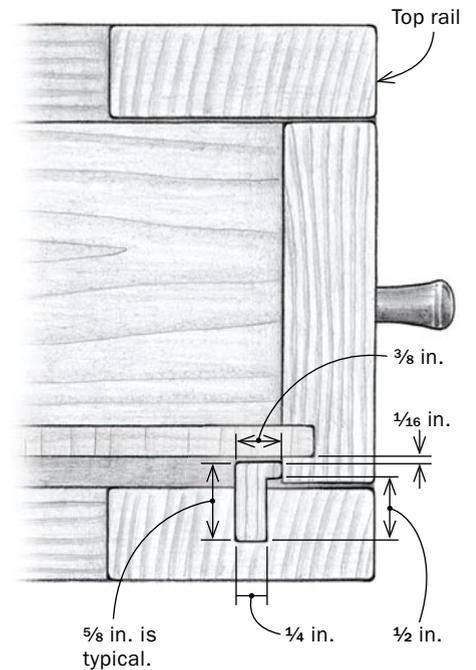
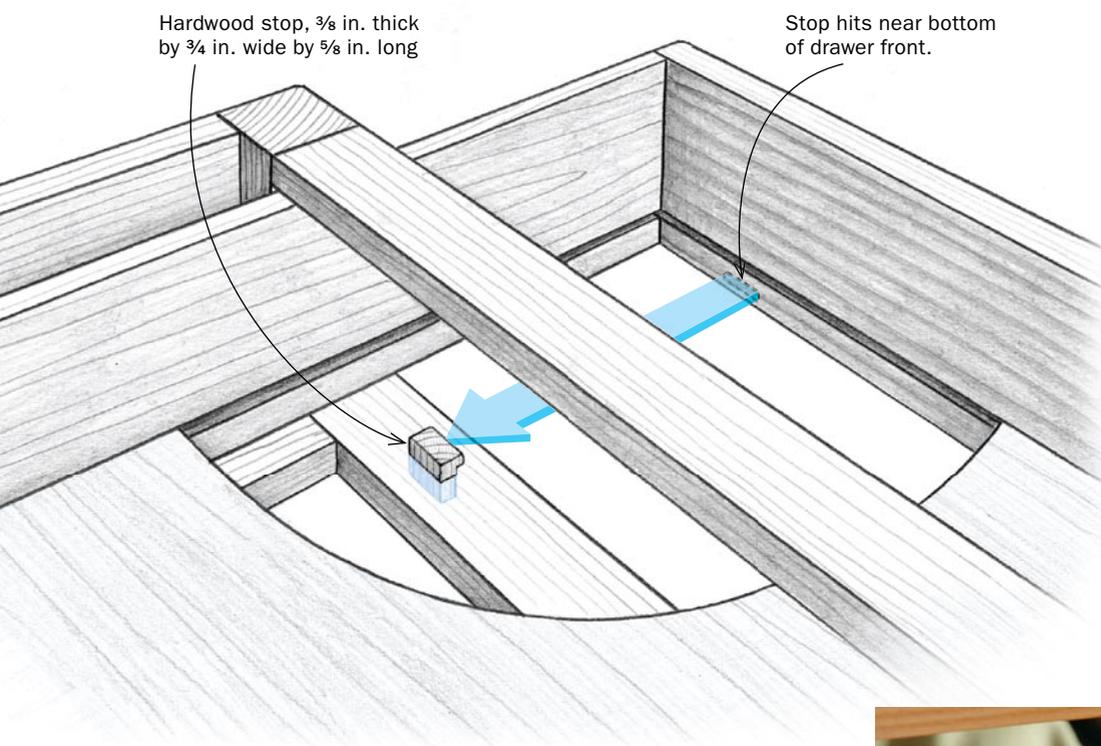


Two at a time. Mill one piece of hardwood to thickness and width, then countersink a hole on each end. Round over the ends and cut off the two stops.



Home on the rail. Screw the stops behind the rail, one on each end, about 2 in. from the sides of the drawer pocket.

On a wide rail, mortise it in



If the lower front rail is wide enough, I often mortise two L-shaped stops into it to keep a drawer flush with the front of the case or dial in the reveal of a recessed drawer. With this system, you need to cut the mortises for the stops before gluing up the piece. But a mortised stop is bulletproof and will keep a drawer in place forever.

Use a 1/4-in. straight bit to rout the mortises for the two stops. The distance from the front of the rail will depend on the reveal of the drawer, but be sure the mortises are far enough away from the drawer pocket sides that you can use a shoulder plane to fine-tune the stops after installation. Square up the ends of the slots with a chisel.

Make the stops out of a straight-grained hardwood stick that's about 3/8 in. thick by 3/4 in. wide. I've used hickory and ash, but any dense hardwood will do. Cut a lip on each end of the stick before cutting the stops to length. The length of the stops depends on the clearance below the drawer bottom, usually 1/4 in. I typically leave 1/16 in. of clearance above the stop, so it won't ever rub the drawer bottom.

After installation, the front of the stop's lip can be planed to fit a drawer flush or to inset the drawer front. Take light passes and check the drawer alignment often.



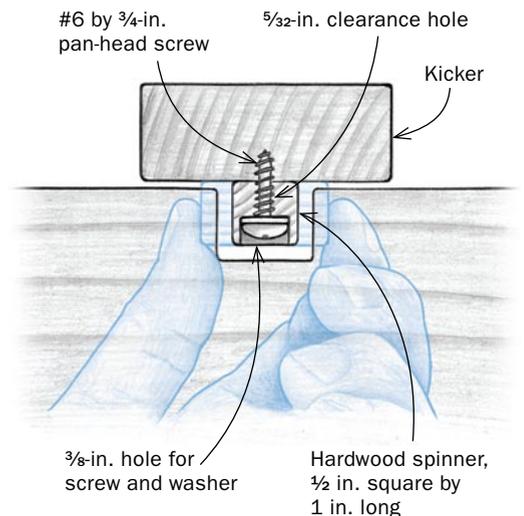
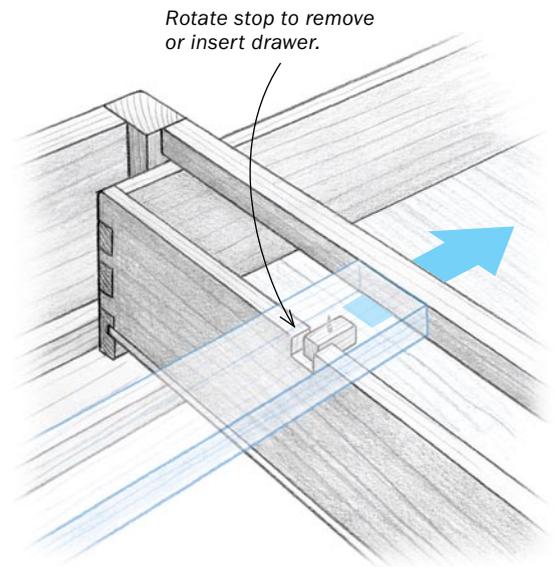
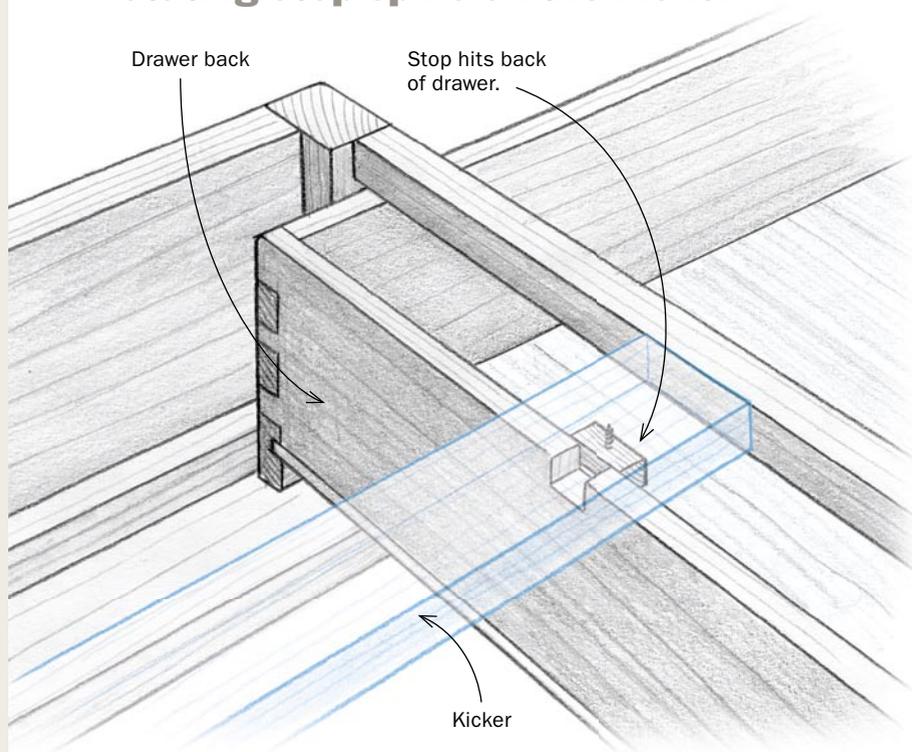
Drop in the stops. After gluing up the case, install the stops in their mortises. Just remember to orient the lip outward.



Dial in the reveal. Insert the drawer to check its alignment. Then trim the stop as needed, using a shoulder plane set for an ultralight cut.

Out-stops

Rotating stop spins on the kicker



A spinner stop is a clever way to keep a drawer from being pulled out of its pocket; the only downside is that you must cut a notch in the drawer back.

Make the spinner $\frac{1}{2}$ in. square by 1 in. long out of a durable hardwood—I often use ash. Then cut a notch, centered in the top edge of the drawer back, that provides $\frac{1}{8}$ in. of clearance around the stop. The stop is drilled to receive a round-head screw with washer.

Position the stop below the tabletop or kicker so that one-quarter of the drawer's length will remain in the pocket. For example, if the drawer is 13 in. long from front to back, the spinner would be positioned so that its screw is $2\frac{1}{2}$ in. into the drawer pocket. With a $\frac{1}{2}$ -in.-thick drawer back, this drawer will come to rest against the stop with about 10 in. of drawer exposed. Any more and there could be too much downward leverage on the drawer when fully extended.

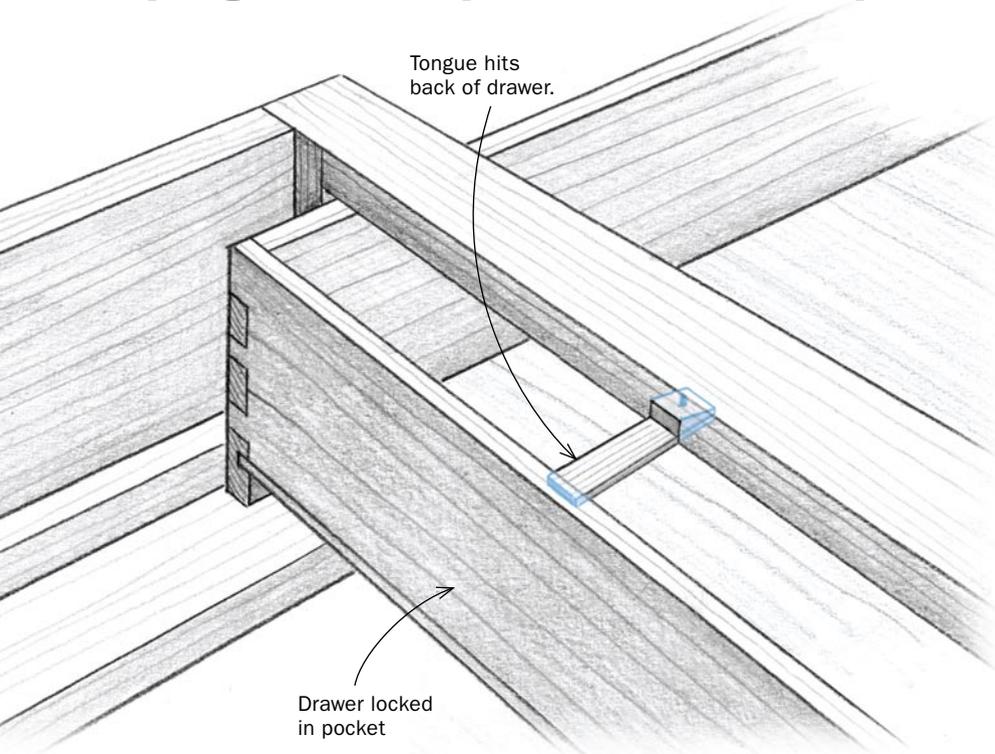
The stop also aligns with the notch in the drawer back. You want the screw loose enough that the stop can be spun, but snug enough that there's no wobble in the connection. If the sound of wood hitting wood bugs you, glue a piece of leather to one face of the spinner to act as a cushion.

To install the drawer, spin the stop so that it clears the notch in the drawer back, and then spin it parallel to the drawer back to lock the drawer in the pocket.



Make a spinner. With the spinner stock milled to width and thickness, drill the holes for the screw and washer (left). After cutting the spinner to length, screw it in place.

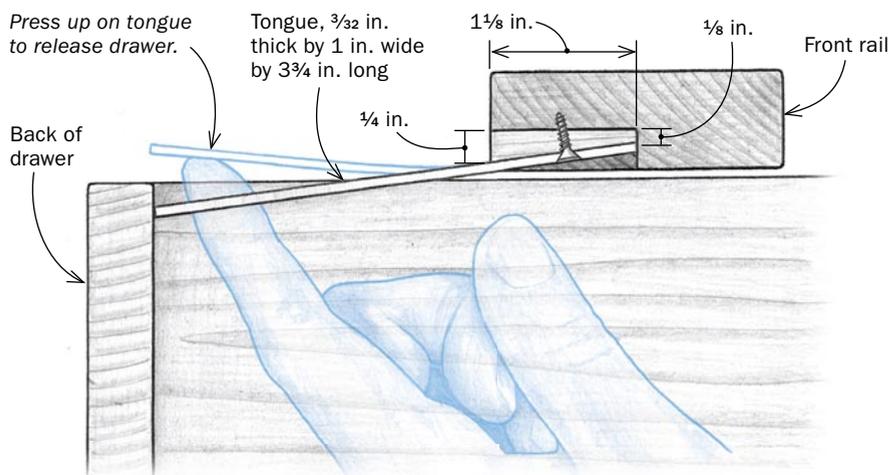
Spring-loaded stop is mortised into top rail



This springy ash stop angles down to hit the inside of the drawer back, but can be pressed up so that the drawer can be removed. Housed in a mortise in the upper rail, the stop has two parts: a flat tongue and a wedge-shaped base.

The angle of the base and the length of the tongue will depend on the depth of your drawer. Again, a good rule of thumb is to leave at least a quarter of the drawer's length in the pocket in the open, stopped position.

Cut the angled base on the bandsaw, then glue it onto the tongue so that the grain is aligned. Let the assembly dry, drill a hole and countersink for a screw, then mount the assembly into its mortise.



Find the right angle. Lower the blade of a bevel gauge until it hits the back of the drawer (top). Transfer that angle to a small block and cut the angled base on the bandsaw.



Make the flipper. Glue the flat tongue to its angled base.



Install it. Screw the stop inside its mortise. Countersink the hole so the screw doesn't protrude.