# Make Your Own Scratch Stocks

## These tiny tools will have a big impact on your furniture

BY GARRETT HACK

Every so often you discover a hand tool that changes your woodworking. Scratch stocks have changed mine. These versatile tools have not only greatly expanded my ability to create fine details, but they've also changed my design aesthetic, allowing me to play with edges to create custom profiles that fit perfectly with my work. And the design possibilities are almost limitless.

I use a shopmade scratch stock. It's really just a small metal scraper sharpened to carve a detail into an edge and held in a block of hardwood. You can make any shape you want way beyond what any stock router bit can achieve. I use them to cut finely molded details like delicate beads as well as perfectly excavated inlay grooves. Well-sharpened, a scratch stock will cut cleanly in any wood, even in the most ornery or figured species.

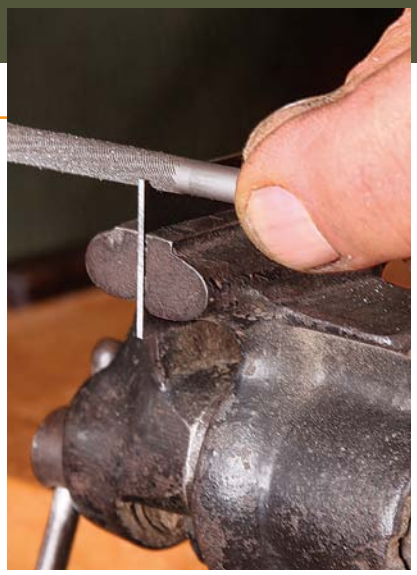
Here I'll show you how to make a simple scratch stock, and give you some tips on using one. This size

# A scratch stock, from scratch

## 1. SHAPE THE SCRAPER

***Snip.*** *Cut out the scraper blank from a piece of spring temper steel. Hack takes it from an old handsaw blade. The size will vary based on the profile you're trying to achieve, but for a simple bead a blank 1 in. by 1¼ in. is good.*

***Smooth.*** *Use a flat mill file to square up the edges. Hack holds the scraper in a small machinist vise but lacking that, you can use a bench vise.*



***Shape.*** *A bead profile is a great starting point for getting into scratch stocks. To create the profile Hack uses a round chainsaw file.*

## 2. GET IT SHARP

***Faces first, then the edge.*** *Hone both faces of the scraper (far right), working through the grits from coarse to fine. You only have to polish the area immediately around the cutting profile. Finally, hone the edge of the scraper to a nice polish (right).*

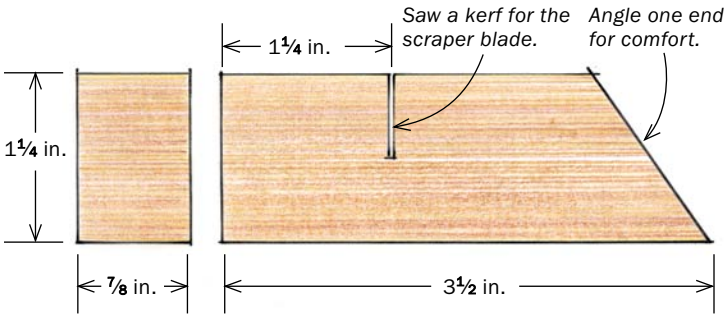
***Get inside.*** *To hone the concave area of the scraper, Hack uses a slip stone (above). You can substitute a rounded stick or dowel and fine sandpaper (right) to do the same job.*

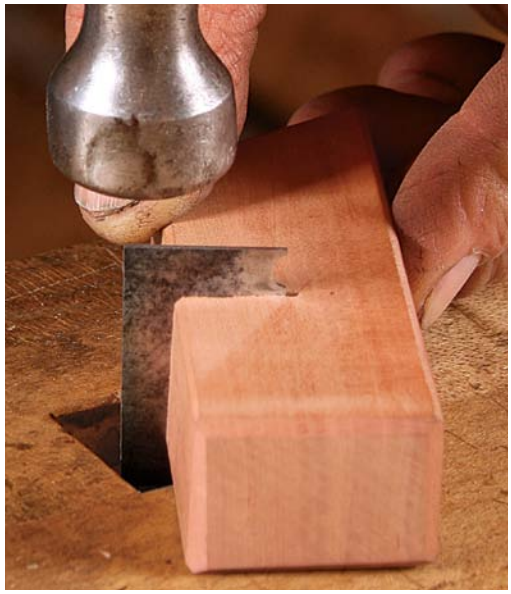


Photos: Thomas McKenna

## 3. ADD A HOLDER

***Cut a kerf.*** *Size the holder to fit your grip—⅞ in. thick by 1¼ in. wide by 3½ in. long is a good starting point. Smooth its surfaces and chamfer the edges, then cut a kerf for the scraper.*



***Install the scraper.*** *Tap in the scraper until it bottoms out in the kerf (above). Then adjust its projection (left) from the block to locate the bead (or other profile) perfectly on the work. Test it on scrap until you have the location nailed.*

works for many applications. It will cut as far as 1 in. from the edge. For cuts farther in, you'll need a larger blade and/or holder.

### Create the profile

The best steel to use is the kind found in an old handsaw or card scraper, known as "spring temper" steel. It's soft enough to take a profile easily yet durable enough to hold an edge in almost any wood.

I start by cutting a blank that's roughly 1 in. by 1¼ in. Use a flat file to square up any edges of the blank that you'll use. Once that's done, it's time to create the profile, in this case a simple bead. I work by eye, but for your first time you may want to draw it out on the blank. Your call. A blank can have four different profiles, if you'd like—one on each corner. Then you simply rotate the scraper in the holder to the profile you want to use.

Holding a round file horizontally and just in from the corner of the blank, cut until it is about half buried in the edge. The shape can be round or oval. The goal is to leave a small tooth on the corner. That tooth cuts the groove, or quirk, that defines the bead. A fine tooth works best. Once the profile is created, it's time to sharpen.

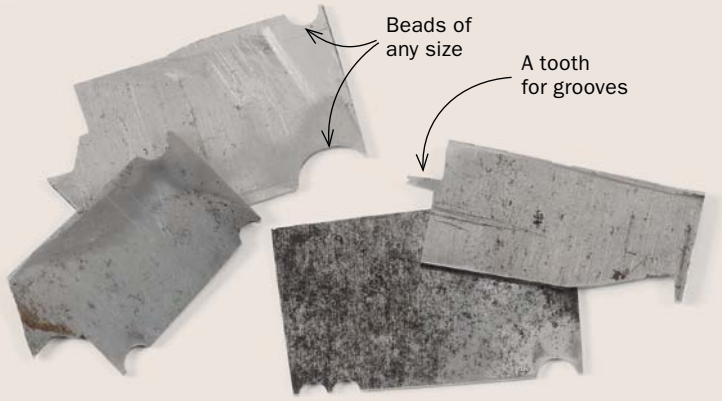
### Hone the edges

Each profile has two cutting edges, which means you can cut both forward and backward. And that's part of the reason a scratch

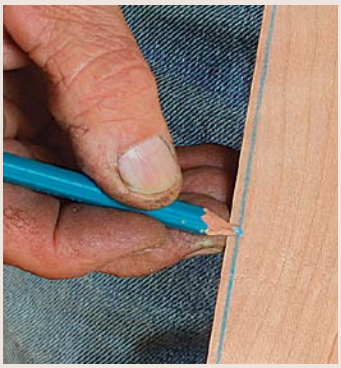
***Cure for a fat kerf.*** *If the scraper is loose in the kerf, drill and install a screw or bolt to wedge it in place.*

## How it works

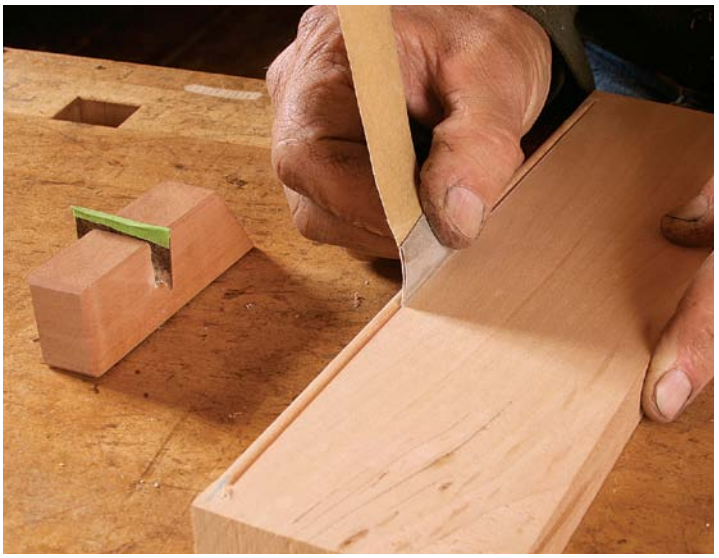
**There's really no limit to the profiles you can create with a scratch stock. The two that Hack uses most often are for beading an edge and excavating for string inlay. Regardless of the job, the technique is the same. For best results, use a light touch, and angle the scraper in the direction of the stroke.**




## BEAD WITH A QUIRK



***Colored pencil guides the way.*** *Mark the apex of the bead (or the high point of a different profile) on the edge of the board (above left) and adjust the scraper so that its tooth is just beyond that mark (above right). Cut until the pencil line just disappears. This will create a bead that's parallel to the original surface. Remove any fuzz with fine sandpaper (below).*



stock can cut so cleanly, because you can always cut with the grain no matter how it changes.

Both of those cutting edges must be honed square and polished. Right off the file, a scratch stock cutter will do serviceable work, but honing the edges will make it operate far better. I start with a coarse stone, 600 to 1,000 grit, to remove any file marks and surface corrosion on the steel.

On the faces, you don't have to hone the entire scraper, just the area around the profile. For the bead profile, hone the top of the tooth, the two faces of the scraper, and the outside (and original edge of the corner). For the concave areas of the profile I use slip stones. If you don't have slip stones, shape a piece of hardwood and wrap it with fine sandpaper or smear it with a bit of diamond paste to work the concave areas. Work up through the grits. I often hone an edge to 8,000 grit, but you can stop well short of this. The advantage of honing more is that the edge will be sharper and last far longer.

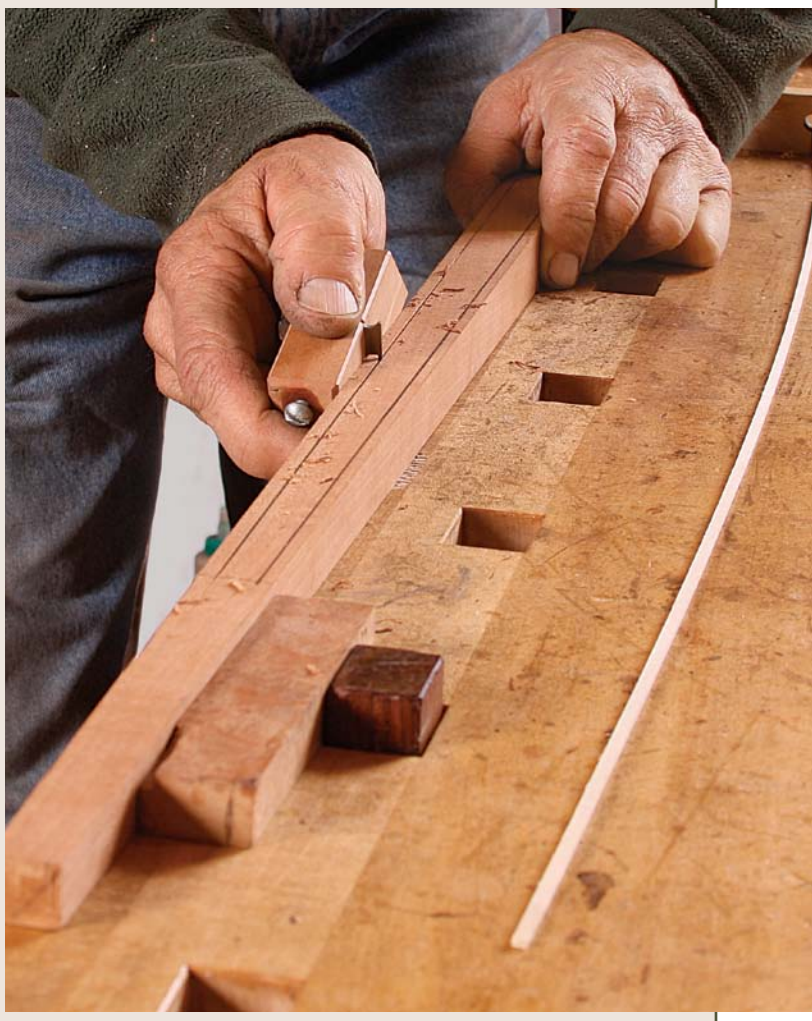
## APPLIED BEAD

***A standout detail.*** *To make applied cock beading for a drawer, door, or apron, Hack uses the scratch stock to round over the edge of the thin workpiece. Again, he takes light passes in both directions.*

**Online Extra**

To watch Garrett Hack make and use a scratch stock, go to **FineWoodworking.com/extras.**

## GROOVES FOR STRINGING



***Works as an inlay tool.*** *Hack uses scratch stocks to excavate for string inlay. The scraper is filed with a tooth profile to match the width of the stringing.*

### Make the holder

Once the scraper is ready, make a holder. Generally, ⅞ in. thick by 1¼ in. wide by 3 in. long is a good size, but size the block to fit your grip. I use a hardwood scrap, smoothing the surfaces and breaking the corners with a block plane so it is comfortable to hold.

Saw a kerf at right angles to the length of the stock and cut about halfway through. Use a saw that has a slightly smaller kerf than the steel you use for the scraper. With a hammer, tap the scraper into the holder. Then position the scraper horizontally until it cuts exactly where you want it to. Test the setup on scrap until you're dialed in. The fit should be snug enough that the blade remains fixed in use. If the kerf is too wide for the scraper, put a machine screw into one end of the holder and tighten it against the scraper. Now you're ready to cut.

### Tips for using any scratch stock

I have dozens of scratch stocks with different profiles. Whenever I want a new edge detail, I just make a new scraper or file the profile into an existing scraper. No matter the profile, they all cut the same way. Here are some keys to success.

In general, these are scraping tools, and they don't cut a lot of wood quickly. Let them cut. Light pressure is best. Angle the scratch stock forward when pushing it. Angle it backward when pulling. The harder the wood the better the results you'll get, especially for very fine profiles. Ebony is wonderful; so are maple and rosewood.

I like to cut repeatedly in the same direction for a half dozen strokes, then reverse. One direction always seems to work more smoothly, and that's the direction I typically finish with.

Since these scrape, you'll end up with a surface that's pretty smooth, but I like to finish them with some very fine sanding, 220 to 320 grit.

Give scratch stocks a try. You'll quickly see a big difference in your furniture. □

*Garrett Hack is a contributing editor.*