

By Francis J. Lestingi



Francis J. Lestingi, Ph.D. is the proprietor of Signs of Gold (Williamsville, NY).

The Low-Tech Cutting Edge

How to keep your carving tools ready for work.

As Signs of Gold enters its third decade producing handcarved, gilded wood signs, we thought it was time to share the technique we have developed for sharpening and honing our chisels and gouges. Back in 2006, *ST* published an extensive article about our handcarving techniques, which we titled "The Importance of Being Shallow" (see October 2006, page 90). Knowing how to carve is a valuable skill, but carving is neither fun nor successful if your tools are dull and not doing what you intend.

Over the years, we tried every conceivable method – and bought almost every sharpening gadget ever sold – in our quest to maintain sharp tools. The photo to the right attests to this futile effort. We're not sure how much money we spent, but it might have been worthwhile had the results been gratifying; they weren't. The procedures were lengthy and tedious and the results were lackluster – any improvements were fleeting.

Eventually, we observed that a few carvers were using sandpaper in some of their sharpening steps. This idea germinated, leading us to experiment with silicon-carbide

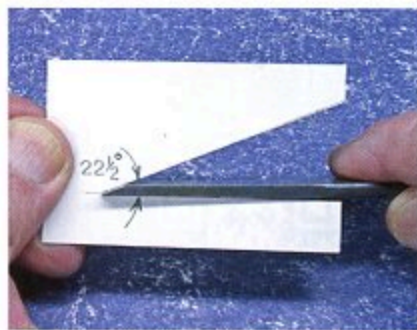


Here are tool-sharpening gadgets I've bought over the years in my quest to produce the finest sharpened chisels. Note the grinders, oil stones, wet stones, diamond stones, honing oil and various gadgets. All will be trashed soon – thanks to our new sharpening technique.

waterproof paper in every step of the process except for the last honing step. The result was remarkable. Our technique produces long lasting and superbly sharp edges and is fast and inexpensive.

There is one caveat: Chisels and gouges must have a bevel of about 23° to function optimally. If this is not the case, we show how

to produce a 22.5° (close) template using fairly common items. After you've properly beveled all of your chisels, this step never has to be repeated. The sharpening and honing steps are achieved easily and rapidly. When a chisel eventually seems somewhat sluggish, just repeat the sharpening steps that precede the honing process. ■



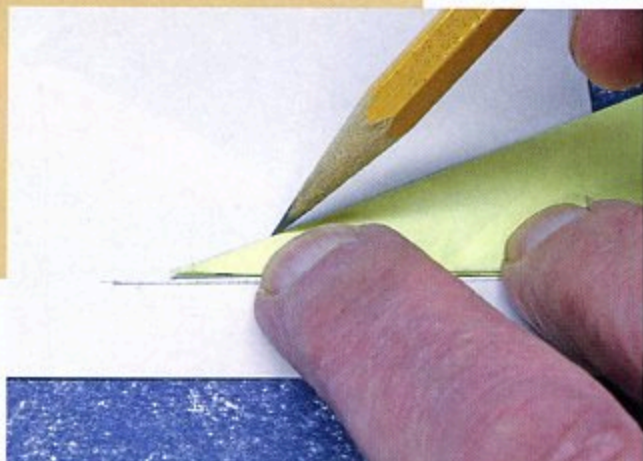
Hand chisels and gouges should have an approximately 23° bevel to function comfortably and optimally. Verify that your tools have this angle using this easily made template.



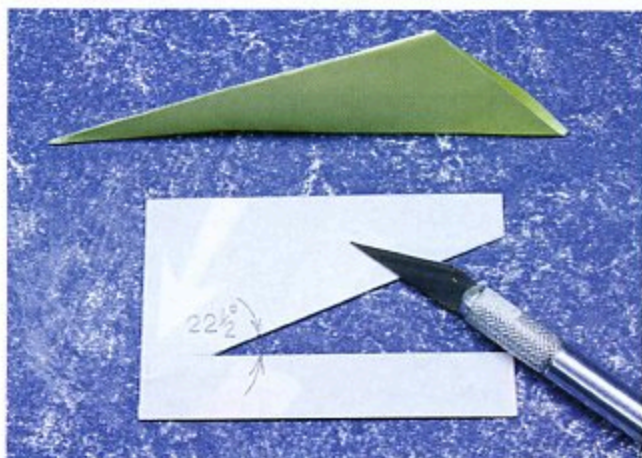
To quickly make a 22.5° angle template (without the aid of a protractor), start by folding the edge of a piece of paper to produce a 45° angle.



Fold the 45° angle in half to yield a 22.5° angle, which is close enough to 23°.



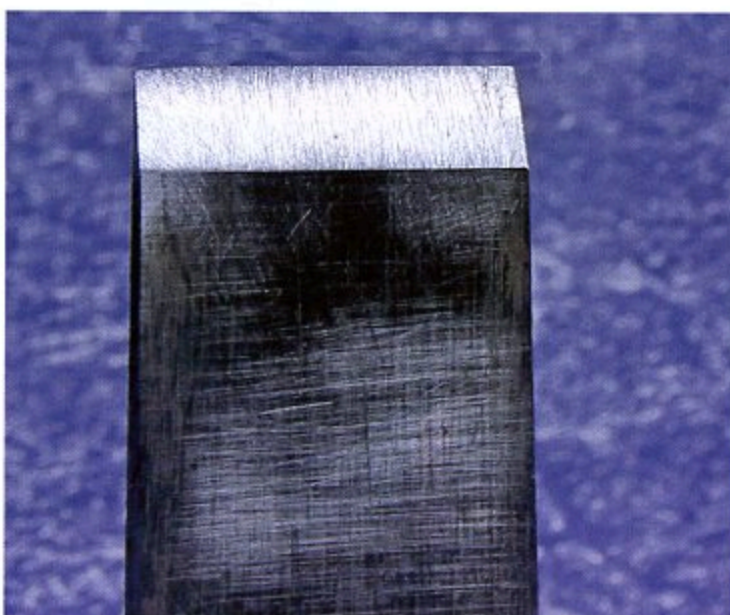
On a stiff card, outline the 22.5° wedge. I used a yellow wedge here to enhance visibility.



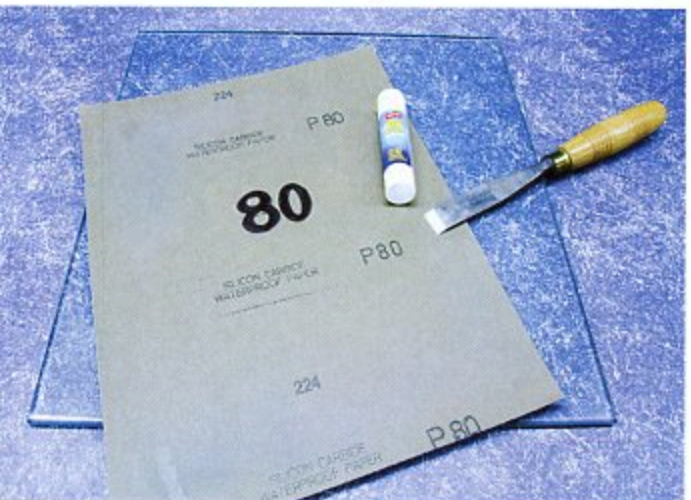
Using an X-Acto® knife, cut out the 22.5° angle and the template is ready to use.



To shape the chisel at the correct bevel angle, hold it at the 22.5° angle over a belt sander running with a 60-grit belt. The belt should be moving away from you. Maintaining the constant slope is important. Once it's done, this step doesn't need to be repeated; it simply creates the required 22.5° bevel slope.



When the shaping is completed, the bevel face of the chisel will look like this, with rough striation milling marks. The subsequent refining steps will eventually produce a clean, smooth, mirror-finish bevel and a very sharp edge.



Use plate glass to ensure a true, flat surface. We begin with an 80-grit, silicon-carbide waterproof sheet that's glued to the glass with a glue stick.

EQUIPMENT AND MATERIALS

Carving: Mahogany, from Niagara Lumber (East Aurora, NY), (716) 655-2142 or www.niagaralumber.com; chisels and gouges, from Pfeil Tools (Langenthal, Switzerland), www.pfeiltools.com; Corafoam® HDU, from Duna USA (Baytown, TX), (281) 383-3862 or www.dunagroup.com/usa

Sanding: Silicon-carbide waterproof paper, from Online Industrial Supply (Nashua, NH), (866) 736-9310 or www.onlineindustrialsupply.com; belt sander, from Bosch (Farmington Hills, NY), (917) 421-7209 or www.bosch.us; white jeweler's rouge, from PJ Tool and Supply (Edgewood, NY), (888) 841-0088 or www.pjtool.com

Misc.: Cardboard, paper, glue sticks and X-Acto® knives, from office-supply stores

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The flat (non-bevel) side of the chisel is stroked with downward pressure 15-20 times. Eventually, a burr will form at the chisel edge.



Next, the beveled side is stroked downward at a constant angle of 22.5° for 15-20 strokes. The burr that formed in the previous step will be eliminated, and a new burr will form on the beveled edge.



The next several steps consist of using progressively finer silicon-carbide paper, moving from 220-3,000 grit. On each successive sheet, follow the procedure in the previous two steps. First, stroke the flat side, then the beveled side. Smaller burrs will continue to form, and the beveled surface will become smooth and reflective.



When the silicon-carbide steps are complete, the chisel is ready for the final step of honing. No leather strops are needed here; we simply rub a stick of white jeweler's rouge on a piece of cardboard.



As in previous steps, the chisel is stroked on the flat side 15-20 times. The black discoloration is caused by particles of the metal being rubbed off the chisel.



With the beveled surface flat on the rouged cardboard, the chisel is stroked downward while maintaining a constant 22.5° slope.

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Finally, to enhance the chisel's cutting edge, we produce a slight "micro-bevel" on the beveled edge by stroking downward at a 45° angle approximately five times. This step enhances and extends the chisel's sharpness.



Test the chisel's sharpness by cutting on the edge of a piece of wood. If it shaves a curl of wood as shown, your chisel is ready to carve cleanly. If not, repeat a few of the sanding steps, beginning with 600-grit paper and gradually incorporate finer sheets.



The technique for shaping, sharpening and honing gouges is similar to that for chisels. The only difference is that the gouge is stroked from side to side with a rocking motion; it still maintains that ever-important 22.5° bevel angle.



The other difference with gouges is the step involving the flat, non-beveled side's burr removal. The flat stroke is easily accomplished by rolling a small piece of 600-grit silicon-carbide paper and stroking the gouge as shown.



More About Francis

After an academic career as a physics, chemistry, math and theology instructor, Francis Lestingi returned to his love of the lettering arts and started Signs of Gold Inc. with his son, Stephen, in 1994. Today, he serves on the board of trustees of the Society of Gilders. Each year, he joins the group in their pro-bono project restoring Hurricane Katrina-affected historic churches in New Orleans. Lestingi has earned awards in *ST's* International Sign Contest and nine first-place awards from the United States Sign Council's sign-design competition. Lestingi has also designed four calligraphic fonts – Duetta (which was released in May), Pierre, Calileo and Verdi – which are available through www.letterheadfonts.com, and two other digital typefaces, FranHand and Stefano, which are offered on www.myfonts.com.

For more information about his shop, visit www.signsofgold.com.

(Left) We only use mahogany for our substrates; in the past, we've also utilized butternut, redwood, cedar and sapele. However, we do use HDU for individual letters and appliques, such as this Devil Dog we carved for the US Marine Corps, Cape Atlantic Detachment. We couldn't have done it without sharp chisels.