Cabinet Scrapers

You'll get a smooth and flat surface, even on hard wood and curly grain

by Monroe Robinson

Stanley No. 80 fixed-angle cabinet scraper

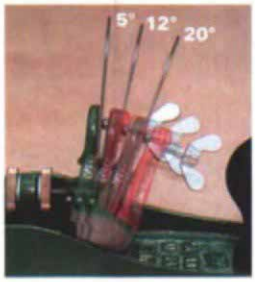
The dining table, 13½ ft. long and 5 ft. wide, could seat 18 people. After working on it for three months, the last thing I wanted was a flaw in the top. To smooth it—all 60-odd sq. ft. of Macassar-ebony that I had painstakingly resawn—I started with a handplane.

When the ebony, still rough from the bandsaw, showed signs of tearing, I turned to a cabinet scraper. It took 16 hours, but when I was done, the top was completely flat and smooth with no chipping, gouging or tearout. And no sandpaper.

A cabinet scraper is the ideal tool for smoothing and flattening any dense hardwood, especially if the grain is difficult and prone to tearout. Figured oak, ash or maple and most tropical hardwoods are all good candidates for surfacing with a cabinet scraper. A belt sander may remove wood as quickly as a cabinet scraper, but a scraper is much less likely to chew through veneer into the substrate or create ugly dips in the surface. A cabinet scraper not only smooths the wood's surface but flattens it as well.

Cabinet scrapers are simply tools for holding blades at a fixed angle and depth of cut. They are pushed like Western planes, and some cabinet scrapers, like the one in the photo below, look like handplanes. Others, like the one in the photo above, look more like large spokeshaves. All hold a blade at an acute angle to the work, so a burr on the blade cuts the wood just like a hand-held scraper. But the cabinet scraper has several advantages over a hand-held scraper. Because the cabinet scraper has a sole like a plane, the amount of blade in contact with the work is limited. As a result, the cabinet scraper takes down just the high spots and skims over any low areas.

Kunz No. 112 variable-angle cabinet scraper



Change angle as scraper dulls. *The author sets a fresh blade at about 5° off vertical. When it stops cutting, he adjusts it a few degrees forward. The blade can be adjusted until it reaches 20° before it needs reburnishing.*

Only a few models are still being made

Decades ago, there were many makers and models of cabinet scrapers. These days, I know of only four cabinet scrapers still being made—Stanley's No. 80 (widely available), the Kunz No. 12 (available from MacBeath Hardwoods; 510-843-4390), the Kunz No. 112 (sold by Woodcraft; 800-225-4482) and the Lie-Nielsen No. 212 (available through a number of woodworking catalogs as well as directly from Lie-Nielsen Toolworks; 800-327-2520).

Prices for new cabinet scrapers range from about $30 for a No. 80 to $120 for the Lie-Nielsen No. 212. An antique Stanley No. 112 can cost considerably more.

New or old, there are just two types of cabinet scrapers—those that hold the blade at a fixed angle and those that permit the blade angle to be set.by the user. The Stanley No. 80 is a fixed-angle cabinet scraper. Both Kunz scrapers and the Lie-Nielsen No. 212 permit blade-angle adjustments. Both of these variable-angle cabinet scrapers are also called scraper planes because of their shape.

Bevel angle isn't critical—a well-prepared blade is

A properly prepared blade is essential to getting a cabinet scraper to work well. All of these cabinet scrapers can be used with the blade sharpened at any angle between 90° and 45°. When filed and honed at 90° (just like a hand-held scraper), you get two cutting edges at one end of the scraper blade. A blade with a 45° angle is a more aggressive cutting tool. It will scrape for a longer period before dullness reduces it to creating dust rather than shavings. The angle is a matter of personal preference. I use a 90° angle on the

FIXED-ANGLE SCRAPERS

The No. 80, the most common fixed-angle scraper and the only one still being made, is the most aggressive. Its relatively short sole makes it better suited for cleaning up glue joints (below) and fairing out areas of tearout than for surfacing large tabletops. Like all other Western cabinet scrapers, the No. 80 is designed to be pushed.

Setting and flexing the blade

Secure the blade. Tighten the two nuts on the front of the cabinet scraper while holding the scraper body and blade down with the other hand. The blade is now flush with the sole.

Flex the cutting edge of the blade. Tightening the thumbscrew on the back of the scraper body causes the blade to extend below the sole, allowing it to cut. The more the thumbscrew is tightened, the greater the blade projection.

blades in my No. 80s, although I know others who swear by a 45° bevel. On my variable-angle cabinet scrapers, I prefer a bevel angle somewhere between 45° and 60°. Anything more acute than 45° would be too fragile to last very long. Whatever the angle, the bevel faces the rear of the scraper.

After filing the edge to the angle I've chosen, I hone the edge to 6,000-grit on my Japanese waterstones and burnish the edge with a light touch. (For more on this, see *FWW*#114, pp. 53-55.)

Preparing and using a No. 80

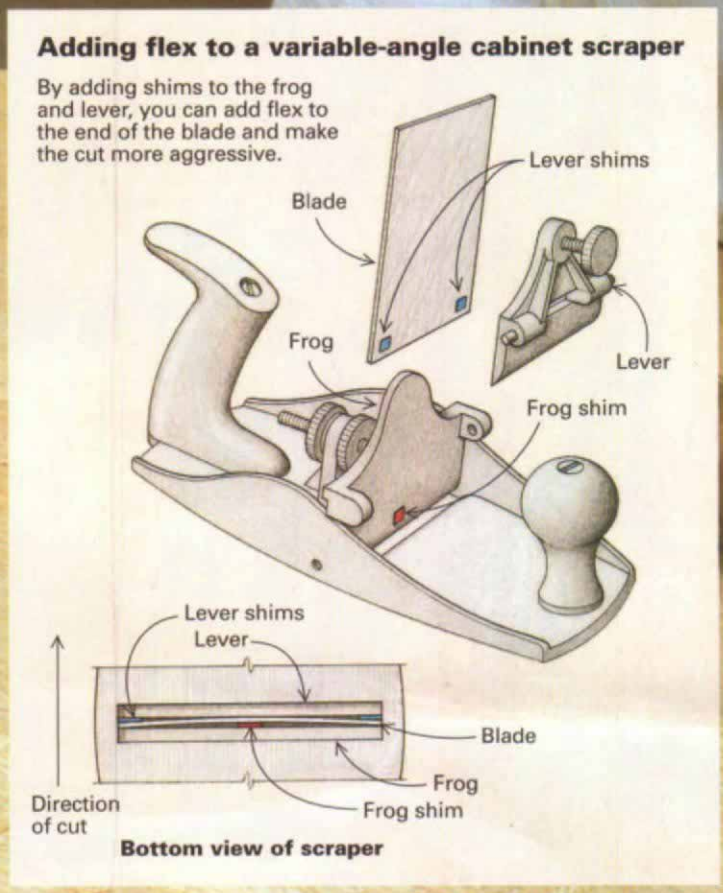
The No. 80 is the most aggressive wood remover of the four cabinet scrapers still generally available. Because its sole is comparatively short, it's not the best tool for flattening a large surface. If not used in a consistent pattern, it can create shallow dips that would be evident when viewing the surface from a low angle, such as when sitting down at a dining table. The No. 80 is a good choice, however, for eliminating small rough spots or leveling the surface along glue joints. Or if you've already largely flattened a surface with a plane or a cabinet scraper with a longer sole but you still have some minor tearout here and there, reach for the No. 80. Just be careful not to linger in one area of the surface, or you're likely to create a depression.

To ready this type of scraper for use, start by setting the tool on a smooth, flat surface. Loosen the center thumbscrew on the back of the scraper, and slip the blade between the body of the scraper and the pressure bar until the blade bottoms out. Then, while holding down both the blade and cabinet scraper with one hand, tighten the two nuts on the front of the cabinet scraper with the other hand

Photos: Vincent Laurence

VARIABLE-ANGLE SCRAPERS

Variable-angle scrapers can be set again and again before the blade needs to be reburnished. The long sole on the No. 112 (below) is ideal for flattening and smoothing large surfaces, such as tabletops, especially if the wood is figured or very dense.



(see the top right photo on p. 83). This secures the blade to the scraper body and positions the blade precisely flush with the sole. Now tighten the center thumbscrew so it just barely flexes the blade (see the bottom right photo on p. 83). This pushes the center area of the blade slightly below the sole. As the blade gets dull, adding more flex with the thumbscrew will get the blade to bite again. And after reburnishing a new edge, it's often necessary to add a little more flex to get the blade to make shavings again.

Working with variable-angle cabinet scrapers

The first step in setting up a cabinet scraper with an adjustable blade angle is to position the frog mechanism to about 5° forward of straight up (see the bottom photo on p. 82). This angle works well for a newly sharpened blade. You may want to set the angle with a protractor and bevel gauge the first time, so you know what you're shooting for. After that, setting the angle by eye is close enough. Another way is to use the cabinet scraper blade like a hand-held scraper for just a few strokes. It may feel a little awkward at first, but once the scraper's making shavings, you'll know the proper setting.

Then, just as with the No. 80, set the scraper on a smooth, flat surface, and slip the blade into the frog mechanism until it touches bottom. Tighten the blade hold-down screw with one hand while holding down the blade and cabinet scraper with the other. The blade is now flush with the sole. Adjust the blade angle forward ½° or so with the blade-angle adjustment nuts at the rear of the scraper. This pushes the cutting edge of the blade back slightly so it protrudes just below the sole. The scraper is ready for use.

Drawings: Vince Babak

With use, the blade will dull. To get it to cut again, you can burnish a new cutting edge on the dull blade, adjust the angle forward or do both. The farther forward you adjust the blade, to as much as 25° or so, the more aggressive the cut. Each time I shift the blade angle forward, I reset the blade flush with the bottom. Then I shift the blade forward another ½° or so, so it's just slightly below the sole. This two-step repositioning of the blade alters the angle of the blade without causing it to protrude excessively through the bottom of the sole.

Problem-solving for variable-angle cabinet scrapers

Much of what you've read about tuning up handplanes is just as applicable to cabinet scrapers: A flat sole and flat seating for the blade will go a long way toward improving performance. But particular makes and models of cabinet scrapers seem to have some specific problems.

Every one of the dozen or so Kunz scrapers I've seen has had significant play in the pin or screws attaching the frog assembly to the scraper body, making it difficult to set the scraper iron accurately. None of the many old Stanleys I've seen have had this problem. I was able to correct the problem on a Kunz No. 112 in less than 10 minutes by flaring the ends of the screws securing the frog assembly on each side with a hammer and center punch.

Something else I noticed while experimenting with cabinet scrapers early on was that because the variable-angle cabinet scrapers don't have any provision for flexing the blade, they don't cut as aggressively as I'd like. What they needed, I figured, was a slight flex at the end of the blade, just as you would get with a hand scraper or with the No. 80. I cut three ¼-in.-sq. pieces of brass shim stock (between .020 in. and .030 in. thick is about right) and glued one on each outside corner at the bottom of the lever and one at the bottom center of the frog (see the drawing on the facing page). Wood veneer between 1/30 in. and 1/50 in. thick would work as well. Contact cement works perfectly to adhere either material to the scraper body. With these shims installed, the more you tighten the blade into the cabinet scraper, the more the blade will be flexed.

Scraping a large surface

Cabinet scrapers can be used to surface furniture parts of any size and, in fact, the Lie-Nielsen No. 212 works particularly well on smaller pieces. But where most cabinet scrapers really shine is on large, flat panels like tabletops.

In general, my process for flattening and smoothing a large tabletop is first to handplane it and then scrape it with a Stanley No. 112 or No. 12½ (same as the No. 12 but with screw holes in the sole) with an extended body (see the box at right). I finish up with some finer hand scraping. If the wood doesn't respond well to the handplane, I go straight to the cabinet scraper. Either way, when I do get to the cabinet scraper, I scrape the top in all directions—across the grain, diagonally in every direction and with the grain—so I don't favor or neglect any portion of it. The order is not important, but scraping in repeated sequence from each direction is, until an overall flatness is achieved.

Once the surface has been flattened, you can use a No. 80 to remove more wood, working on small imperfections or tearouts. Or you can just continue using the No. 12 (or No. 12½) or No, 112 to do this. Although it will take longer, the top will be flatter.

The last thing I do with the cabinet scraper is hone a blade so it's very sharp, put it in rny extended No. 12½ or No. 112, set it for a very delicate bite and scrape straight with the grain. I do not hold the cabinet scraper nose forward in line with the direction of the stroke. Rather, I skew the scraper first to one side and then the other. This prevents the cabinet scraper from creating a miniature washboard effect on the wood surface.

Finally, I go over the surface one last time, taking just a delicate scraping with a freshly honed hand-held scraper. The surface is now ready for a finish. And no sandpaper is needed.

Monroe Robinson is a sawyer in Little River, Calif., specializing in the custom sawing of salvaged, old-growth redwood and Douglas fir. He was a professional furnituremaker for 22 years and trained with James Krenov at the College of the Redwoods. He has worked as a woodcarver, log-bridge builder and custom homebuilder.

While attending woodworking school, I built a large, rosewood-veneered table. When I surfaced the top, I wanted to take every precaution to prevent planing or scraping through the veneer. I had an antique Stanley No. **12½**, a relatively short-soled cabinet scraper, but not a No. 112, which is considerably longer. To get the longer sole I wanted, I built and attached an extended body to the old No. **12½**, tripling the length of its sole and all but eliminating the chance of scraping through the veneer (see the photos above). The construction of the extended body is straightforward, all screws and glue. It works so well that it's the cabinet scraper I reach for to this day.

If you want to make your own extended-body cabinet scraper, buy a No. **12½**. The No. **12½**, unlike the No. 12, has four holes in the sole to fasten the extended sole to the cabinet scraper. With the No. 12, you'll have to drill and tap screw holes yourself or pay a machinist to do the work. Don't make the extended sole any thicker than 5/16 in. or so. If you do, the blade won't be supported very well where it scrapes and could chatter or cut poorly. —*M.R.*