

The Scraper

A most versatile tool

by Tage Frid

The scraper is one of the most important and versatile tools for wood sculptors and cabinetmakers. It is available as a simple, rectangular piece of steel, called the scraper blade and as a blade mounted in a handle that looks like a large spoke-shave called the cabinet scraper.

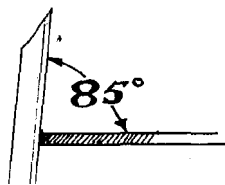
Sharpening and maintaining the scraper are simple, but do take practice to learn. Many people get frustrated and give up, but once you can maintain the proper edges you will wonder how you ever did without it. Whenever I lecture, people want me to demonstrate the care and use of the scraper because few are able to learn this on their own.

The same scraper blade can be used for crude and fine work, to scrape glue or to produce a high-gloss finish with lacquer or shellac. It is better than steel wool between coats of finish because it doesn't leave tiny shreds of metal embedded in the pores of the wood. And when an old scraper gets too narrow to use it can become a tool for making half-blind or hidden dovetails.

The cabinet scraper has many uses too. It can remove old finishes without the use of solvents. It is excellent for removing paper after veneering and, like the scraper blade, it removes excess glue. If sharpened correctly it will put a fine finish on burl woods or delicate veneers.

The working edge of a scraping tool is the burr which does the actual cutting. Magnified, the burr resembles a small hook running the length of the edge. The scraper blade is sharpened by first filing the edges square. Then a medium stone removes the file marks. I prefer a wet/dry carborundum stone without oil. Then I use a honing stone, and here I prefer a Belgian clay water-stone, used with water. I hate to use oil because it mixes with particles from the stone and gets on my hands and the bench. Before I know it, the work too gets oily. The edge a water-stone produces is just as good as with an oilstone and it cuts the metal much faster. And if the stone wears hollow you can redress it yourself with sandpaper, by hand or machine.

After the edges are honed square the scraper is ready to have its cutting edge or burr put on. This is done by stroking the edge with a burnisher held at an angle of 85° to the face of the blade. A burnisher is a piece of steel that is harder than a scraper blade. The back of a chisel works just as well—I think even better—and I



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don't have to buy another unnecessary tool. The whole sharpening procedure is explained in the photographs on the following pages. The biggest mistake people usually make is to get too excited and burnish too hard. The resulting big hook, which digs too far into the wood, is fine for rough work like glue scraping. But for fine finishing you need a light touch when burnishing the cutting edge. It is just like when you had your first date and touched the other person's hand for the first time—but this time you don't have to blush.

When the blade gets dull, you can burnish the old burr down and pull it back again five or six times before you must file and stone.

For rough work I simple file the edges and don't stone it. I keep the burr left by the filing, burnish it out flat, and pull it back again. This edge will cut as well as if it were stoned, but it will have microscopic nicks that won't matter much for rough work.

The cabinet scraper is sharpened almost the same way, except its blade has a bevel and the burr is slightly larger, so it is burnished at a slightly steeper angle. As you file it, knock the corners off the blade so they don't dig into the wood.

A scraper will cut sanding and finishing time in half, and the end result will be considerably better than if only sandpaper were used. Since the rate of tree growth depends on the season, some parts of a board are harder than others. Sandpaper will remove the softer wood more quickly and the result will be a very uneven surface—which may not become apparent until the finish is applied. I never use an orbital sander because it has a flexible rubber or felt pad that will make the surface even more uneven. The best finish surface is obtained by first using a smoothing plane or cabinet scraper, then a flat scraper blade which will keep the surface flat and remove the wood quickly and efficiently. Then sandpaper.

If the first steps have been done correctly, very little sanding will be required. I use only 80-grit and 120-grit paper before applying the finish. I feel that often too much time is wasted by going any further. I always use a piece of cork for a sanding block. It is rigid, but not too hard, and it is very inexpensive. And I save the sanding dust to mix with either shellac or lacquer, depending on the finish I am using. (For an oil finish I use shellac.) This makes an excellent paste for filling small imperfections. If stain is to be applied I mix sanding dust with half Titebond glue and half water. The sanding dust will fade and shade with the wood, and is better and cheaper than any plastic preparation.

A swan neck (also called a goose neck) scraper blade is sharpened and handled the same way as the straight scraper. It is used in curved places—mostly for carvings, moldings, sculpture or sculptured furniture.

You can buy scrapers for about \$2. But I always use a Sandvik #475, which costs about \$4 and is worth every penny. Its polished edges and high-quality steel produce a much cleaner burr without imperfections. You can look at various scrapers on the market and see the difference in the quality of the steel. Since most people buy only one or two blades in a lifetime, it is a good investment to buy the best.

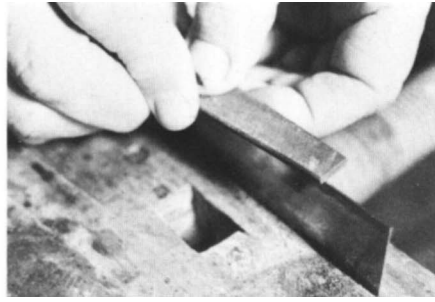
After reading this and trying to sharpen a scraper several times, you might be the most frustrated person in the world. But don't give up. All of a sudden it will work out right, if you don't get too excited. Remember the light touch.

[Cork sanding blocks are available for \$.75 from George Gordon, Box 144, Pittsford, N.Y. 14534, Sandvik scrapers from Woodcraft Supply.]

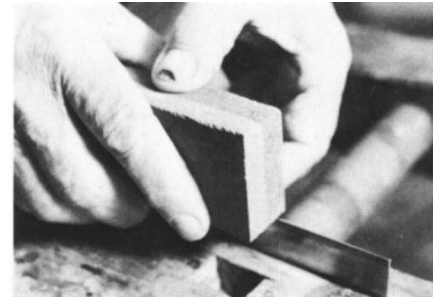
Sharpening the scraper blade



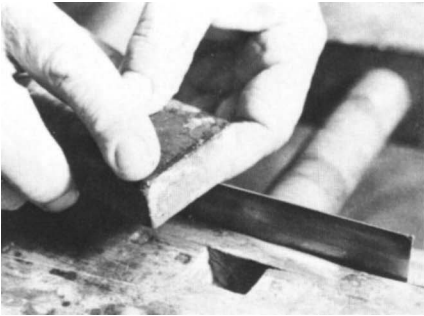
The first step in sharpening a scraper blade is to file the edges square. Clamp the blade in the vise; curl the fingers around the file for control.



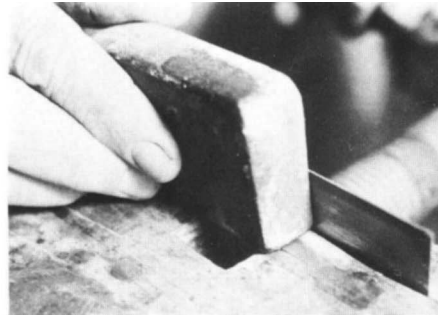
Hold the file square to the edge and draw it along in long, even strokes.



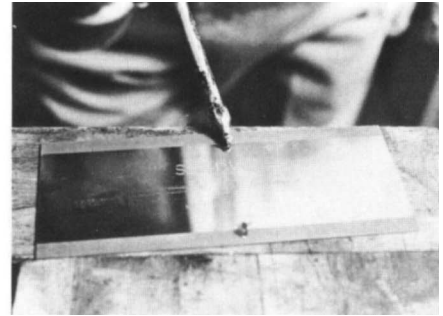
Remove file marks with a medium stone.



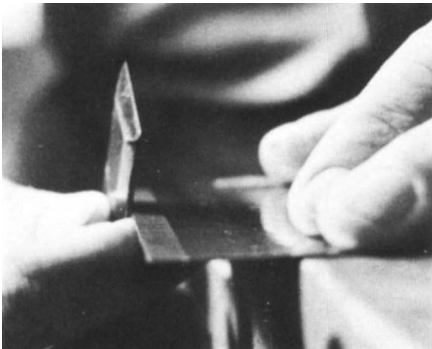
Then hone with a fine stone held askew to avoid wearing a groove in its face. The edge of the blade must remain flat and square—don't rock the stone.



Finally, wipe the stone along both faces of the scraper to remove any remaining burr.



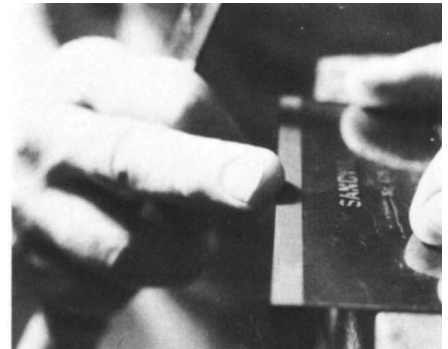
Put a drop of honing oil on all four edges of the blade to prevent the chatter of steel on steel and place the scraper on the bench with its edge extending over the side.



Use the back of a chisel as a burnisher. Hold it at an angle of about 85° to the face of the scraper and draw it back and forth until a small, even burr forms.



Two or three passes should do it, with light pressure (about four ounces).



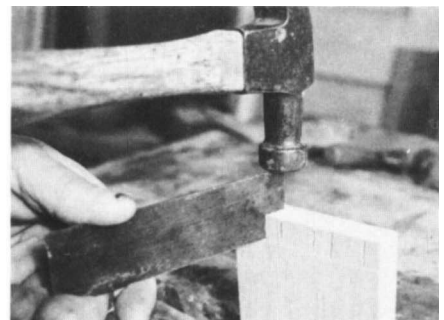
Check the burr with a fingertip and repeat on all four long edges of the blade.



When the scraper gets dull you don't have to go through the whole process of filing and stoning. Lay the blade flat on the bench, add a drop of oil and slowly lay down the burr with the back of the chisel until you can't feel it on the top surface.



Lift one edge of the chisel to make sure you burnish the whole length of each edge and guide your finger along the bench to keep the chisel from slicing into your other hand. Then burnish to raise the burr as before.



When an old, much-sharpened scraper blade gets too narrow to use, it can become a tool for continuing the saw cut in half-blind and hidden dovetails. Set it in the kerf and tap it with the hammer. It saves a lot of chiseling.

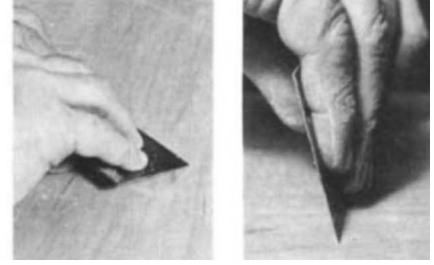
Using scrapers, sharpening cabinet scrapers



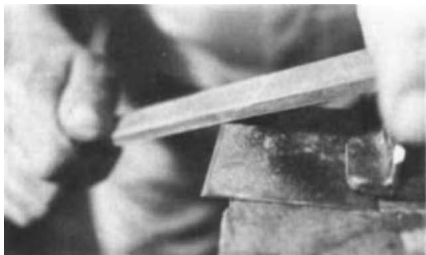
Now the scraper is ready to test on the top of the bench. Curl your fingers around its ends and bow it slightly with thumb pressure. Start with the blade vertical and tilt it until it just bites the wood, about a 70° angle, and push. If it is sharp it will make fine shavings, not dust. →



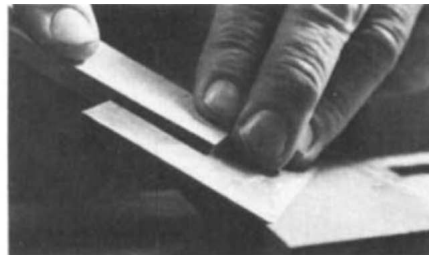
The scraper can also be pulled toward you—it will cut better and more evenly if it is held askew to the grain direction, but moved parallel to the grain. Don't scrape away at one spot; reverse direction and work the whole surface so it stays smooth and even.



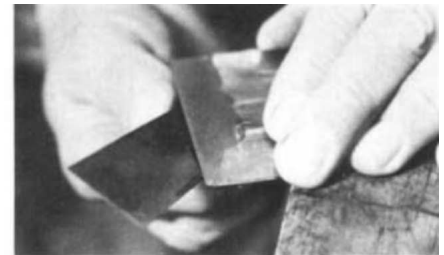
It won't cut properly and the blade will get dull quickly if you hold it at too shallow an angle. The correct angle is at right. If the corners dig in, press harder at the center of the blade to bow it more.



To sharpen the cabinet scraper, clamp the blade to the bench with the bevel upward and overhanging the edge. Hold the file in both hands and draw it along the bevel, maintaining an angle of 25° to 30° so the bevel is twice the thickness of the blade.



File until there is a burr on the back, then stone the edge and back on carborundum and hone with a fine stone until the burr is gone. The cabinet scraper is sharpened on both long edges—use a stick with a saw kerf as a holder so you don't cut yourself.



Then burnish the same way as the scraper blade but at a steeper angle, resulting in a slightly bigger burr. To set the cabinet scraper in its handle, remove the wing screw on the back of the handle and the two knurled screws on the front.



Place a piece of paper under the front of the sole to gauge the depth (double the paper for a deeper cut) and drop in the blade so it rests on the bench, with bevel facing upward and burr frontward. Hold the blade in place and tighten the knurled screws.



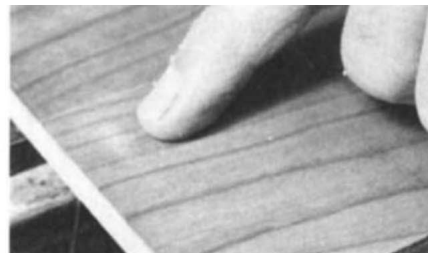
Set the wing screw until it just touches the blade and test the cut. For a deeper cut tighten the wing screw against the blade, making it bow. Always push the cabinet scraper with the blade leaning away from you. It, too, should make fine shavings.



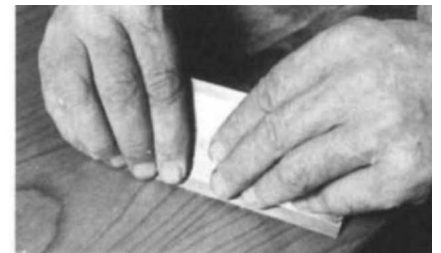
To remove a finish, set a large burr on the cabinet scraper and tighten the wing screw so it bites between the finish and the wood. Scrape across the grain.



A scraper blade is the perfect tool for leveling a lacquer finish between coats. Just go lightly over the whole surface to remove bumps and dust. Start with the ends because they are the most difficult places.



After the pores are sealed, use the scraper to remove as much lacquer as possible without cutting through the surface. The change in color tells you you have gone too far. Work across and with the grain; be sure you don't miss any place, or the finish will streak.



After final scraping, for a glossy surface mix a pumice-and-oil paste and rub it on with a felt block. For a really high shine use rottenstone and oil. Then rub on sanding dust to absorb the oil. For a matte finish apply dry pumice with a shoe brush.