

Vince Pitelka, 2016

Veneer Slicer and Cutting Frame for Colored Clays

Flat-Bed Veneer Slicer

Making patterned colored clay murrini loaves, and subsequently slicing veneer from those loaves, requires a specialized slicer, and by trial and error I came up with one that works very well, incorporating a slicing wire of very strong, small-diameter multi-strand stainless steel aircraft cable. Shims made of cardstock, matboard, and/or wood placed under the slicing wire regulate the thickness of the slice. With this slicer you can cut clay veneers as thin as $1/32''$, and thus each patterned loaf produces a large supply of veneer. It's unlikely that you will want to laminate veneer much thicker than $1/32''$, because the likelihood of surface flaws increases with thicker laminations. With this use of thicker shims (up to $3/4''$), this slicer is ideal for cutting slices of solid clay colors needed for assembling patterned loaves. As you are constructing this unit, refer to the images at the end of this document.

For each veneer slicer, obtain:

- One 12" X 24" piece of $1/2''$ or $3/4''$ plywood with one smooth face, and if possible, get high-quality birch plywood that has more laminations. ***Do not use particle board or MDF under any circumstance.***
- A supply of .012" diameter multi-strand stainless steel aircraft cable, available from Sig Manufacturing, 800/247-5008, www.sigmfg.com, part #SIGSH455. This particular roll contains two strands, each 70' long, so it will last a long time, but you do break the wire occasionally in regular use.
- Four 1 $1/2''$ -lengths of $1/4''$ oak dowel (avoid the softer poplar dowels for this application).
- Two #10 x $1/2''$ hex-washer-head sheet-metal screws (home-remodeling center or auto-parts store).
- Assorted 1" by $1/2''$ pieces of cardstock, matboard, and/or wood to serve as shims, allowing them to be stacked up to $3/4''$ -thick in combination. You can get by just fine with card-stock and matboard shims.
- One 6" by 18" piece of canvas.
- One 6" by $3/4''$ by $3/4''$ piece of wood molding (any small-size wood 6" long will work – this is for a handle stapled to one end of the canvas strip).

Draw a line across the plywood board at the mid-point (12" from each end). Along this line drill $1/4''$ -diameter holes $1/2''$ -deep, $3/8''$ and 1 $1/2''$ from each edge (four holes total). Drill these holes with a drill press, or if using a hand drill, make sure that the drill bit is perfectly vertical to the board.

Glue the four dowel-pieces into these holes, so that they stick up 1".

11" from one end of the board, drill a $1/8''$ -diameter hole $1/2''$ from each edge (two holes total). Screw a #10 hex-washer-head screw part way into each of these holes.

Cut a 18" length of the .012" wire. Wrap one end clockwise one complete time around one screw, with at least two inches of wire protruding loose, and tighten the screw. Avoid over-tightening, or you will

strip the screw in the plywood. If this happens, remove the screw, poke some small split pieces off wood (like from a wood matchstick) into the hole, and replace the screw.

Stretch the wire around the far side of all four dowels, and wrap it clockwise one complete time around the other screw, pull the wire taught, and while still pulling, tighten the screw. The wire must be wrapped around the screw clockwise in order to tighten properly. Do not under any circumstances use a washer under the screw, because the wire can get trapped between the screw and the washer, and that will break the wire immediately.

The shims are inserted under the wire between the two dowels on either side, raising and lowering the wire, determining the thickness of the slice. When changing shims, loosen one screw so that the wire is slack, slip in the desired shims, make sure the loose end of the wire is still wrapped one full time around the screw, pull and hold the loose end taught, push the wire down where it contacts the outer two dowels to make sure it is applying downwards pressure against the shims, and re-tighten the screw.

With a staple gun, staple one end of the 6"-wide canvas strip to the 6" wood strip.

When slicing, place the block of clay pattern-face-down on the canvas strip, and pull it through the wire, pulling on the wood handle of the canvas strip with one hand, and applying gentle downward and pushing pressure against the loaf with the other hand, as shown in the illustration on my website. Always slice in the direction where the slicing wire is pulled against the dowels rather than pulled away from them. With this device it is possible to slice clay veneer as thin as 1/32".

Wire Frame for Cutting/Blending Clay

Many ceramic artists have a stretched wire permanently installed on their wedging table, to cut and combine clay in the wedging process, and to cut the wedged lumps into smaller pieces. But this wire is often in the way when you want to use the table for other purposes, and it is often an advantage to use such a stretched wire elsewhere in the studio. It is a simple matter to build a portable wooden frame with a stretched wire across the top, which may be clamped down anywhere in the studio.

You will need:

- One 14" piece of 2x4 lumber
- Two 10" pieces of 1"-diameter wood dowel
- White glue
- A supply of .015"-diameter multi-strand stainless steel aircraft cable (Sig Manufacturing, 800/247-5008, www.sigmfg.com, part #SIGSH458)
- Two ½" #10 pan-head sheet-metal screws (home-improvement center or auto parts store)

On the flat face of the 2x4, draw a line the full length down the center. 1 ½" from each end along this line drill a 1" hole through the 2x4. If possible, do this on a drill press in order to keep the hole absolutely vertical to the board.

Drill a 1/8" hole ½"-deep, ½" from one end of each of the 1" dowels. The two dowels are the verticals that hold the stretched wire, and the 1/8" holes are for the screws that anchor and tighten the wire at the top ends of the dowels.

Squeeze some white glue on your finger and smear it in one of the holes in the two-by-four, and around the bottom inch of one of the dowels (the opposite end from the 1/8" hole). Press the dowel into the hole in the 2x4, so that the 1/8" hole at the top of the dowel faces the end of the 2x4. Do the same with the other dowel, so that the 1/8" hole faces the opposite end of the 2x4.

When the glue is dry, install the two screws part-way into the 1/8" holes on the vertical dowels.

With a file or saw, cut a shallow groove across the top of each dowel, in-line with the center line on the 2x4.

Cut a 16" piece of the .015" wire. Wrap one end of the wire clockwise several times around one screw and tighten securely. Stretch the wire over the top of the dowel in the groove, across to the groove in the other dowel, and wrap it several times clockwise around the other screw. Pulling the loose end of the wire taught, tighten the screw. Note that the wire must be wrapped clockwise in order for the wire to tighten properly. Use an appropriate-size C-clamp to attach the device to any table or counter. With time as the wire loosens, you may loosen one screw, pull the wire taught, and re-tighten.



Veneer-slicer in use. Patterned loaf on canvas strip being pulled through cutting wire. Note wood "handle" on canvas strip.



Very thin lamination being peeled from loaf after cutting. Note residue on cutting wire. Always remove that residue after each cut.